

UNEMPLOYMENT FORECAST IN ROMANIA ON THE SHORT-TERM

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Abstract:

This paper presents two ways of forecasting the number of unemployed. One method is the one used by the National Commission for Prognosis, and the second is proposed by the authors and uses the absolute average change. The obtained results predict an increase in the number of unemployed in the next four years in Romania. Figures obtained through the proposed method are contrary to the values given by the National Commission for Prognosis, which shows a decrease of the indicator between 2013-2016. The economic situation of our country makes us believe that a reduction in the number of unemployed is beneficial, but difficult to achieve in the current period.

Keywords: *number of unemployed, forecasting, absolute average change*

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1. Introduction

Unemployment in the current period is a registered imbalance at any national economy. This phenomenon is also reflected in our country, normally, with certain features. Unemployment, having its premises in the malfunctions of the social economy, in the field of employment, was a constant companion of the transition to market economy (Bădulescu, 2006).

The way of manifestation of unemployment in Romania was strongly determined by the transformations that Romanian economy had to bear. In the early '90s the first people who were affected by the redundancies were women (Enache, 2013). The passing of the years changed the percentage of people affected by unemployment, so that in 1997 the number of male unemployed exceeded the number of females unemployed. This trend is ongoing, and the higher rate of the unemployed is among the male.

Reducing the number of unemployed that started in 1999 was interrupted by the economic – financial crisis. However, the current crisis, although having a global nature, a number of countries have coped with the shock much better than others, contributing substantially to the growth of the global economy (Mihai and Mîndreci, 2013). Romania, unfortunately, is not in this group of countries, and macroeconomic indicators have demonstrated this. The number of unemployed increased both as a result of the crisis and the decisions taken in previous years. Lately, at the level of the Romanian economy, there is a reduction in job security amid unemployment rate (Țoțan et al, 2012).

2. Forecast number of unemployed in the Romanian economy

The period between 1991 - 2012 highlights the dynamics of unemployment in the Romanian economy. Unemployment will be analyzed in terms of the number of unemployed and the figures come from official sources: National Institute of Statistics and the Ministry of Labour, Family and Social Protection for the Elderly.

In absolute value, the registered unemployment in our country is highlighted in the Table 1, which shows both the number of registered unemployed at the end of each year and the number of unemployed by sex characteristic. Nationally, the number of unemployed had a sinuous evolution, with increases and decreases in the indicator for the analyzed period [9].

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Table 1. Number of unemployed in Romania (persons)

Year	Total	F	M
1991	337440	208457	128983
1992	929019	563065	365954
1993	1164705	685496	479209
1994	1223925	693342	530583
1995	998432	551492	446940
1996	657564	355435	302129
1997	881435	428620	452815
1998	1025056	485181	539875
1999	1130296	530119	600177
2000	1007131	471608	535523
2001	826932	381139	445793
2002	760623	339520	421103
2003	658891	286271	372620
2004	557892	234592	323300
2005	522967	219224	303743
2006	460495	191449	269046
2007	367838	166626	201212
2008	403441	187228	216213
2009	709383	302124	407259
2010	626960	264401	362559
2011	461013	203677	257336
2012	493775	210795	282980

Source: The Romanian Statistical Yearbook 1994 – 2012, <http://www.anofm.ro/statistica>

This paper proposes a way to forecast the number of unemployed in the Romanian economy. In forecasting the number of unemployed we will use the method of global projection of population based on the absolute average change (medium growth). It should be noted that these projections are based on the previous evolution of the unemployed number, and the results are reliable if the same conditions and influence factors are kept just like in the past [10].

We modify the notations specific to the formula of global projection of population, to use it to forecast the number of unemployed. In this case, the formula becomes:

$$S_{tk} = S_m + k * \bar{\Delta} \quad (1)$$

Where: S_{tk} - number of the unemployed at the moment tk

S_m - number of the unemployed at the moment tn

k - number of years separating the two periods

$\bar{\Delta}$ - absolute average change

It should be noted that the chosen forecasting method leads to better results in the short time, but can be also used on medium and long ranges. We expect the number of unemployed, using the method shown, for a period of four years. The way of determination will be used for the total number of unemployed, and for each category of unemployed by sex characteristic. Achieving this requires initially calculating the absolute average change based on the data in Table 1 and using the formula for time series:

$$\bar{\Delta} = \frac{\sum \Delta_{t/t-1}}{n} = \frac{y_n - y_0}{n-1} \quad (2)$$

Where: $\bar{\Delta}$ - absolute average change

y_n - value of the last term of the time series

y_0 - value of the first term of the time series

n - number of terms of the time series

Values obtained by calculating for absolute average change are presented in Table 2.

Table 2. Absolute average change specific to the number of unemployed

	2012	$\bar{\Delta}$
Unemployed(total)	493775	7444
Unemployed (female)	210795	111
Unemployed (male)	282980	7333

Source: Developed by authors based on the values in Table 1

During 1991 - 2012 the trend in unemployment was rising with an absolute average change of 7.444 people. Unemployed male follows the same trend as the total number of unemployed, increasing by an average of 7333 people. The number of unemployed women decreases on average by 111 people.

Forecasting the number of unemployed through medium growth method determines an evolution similar to the previous one. In this sense, the forecast for the period 2013 - 2016 highlights an increase in unemployment in the Romanian economy. We calculate for 2013 because official data are not currently available and the comparison between reality and our result will soon be able to be checked.

Table 3. Number of enemployed by average growth method

Year	Number of unemployed (total)
2013	501219
2014	508663
2015	516107
2016	523551

Source: Developed by authors based on the values in Table 2

From Table 3 we observe that the number of unemployed slightly exceeds 500,000 in 2013. In the year 2014 calculations reveal a number of 508.663 unemployed. Year 2015 recorded a total of 516.107 unemployed, as in 2016 to reach 523.551 people unemployed. Growth determined by the method of absolute average change reflects in a true manner the increasing evolution of the economy in the last 22 years.

Table 4. Number of unemployed women by average growth method

Year	Number of unemployed (female)
2013	210906
2014	211017
2015	211128
2016	211239

Source: Developed by authors based on the values in Table 2

The number of unemployed women is increasing, as the evolution of the 22 years analyzed. This increase will lead to 211.239 unemployed females in the year 2016. According to figures determined by calculation, the increase is done gradually and the differences are not as significant as the total number of unemployed. Year 2013 will have a total of 210.906 unemployed females. In 2014 this number will increase to 211.017, and in 2015 we recorded 211.128 unemployed among females.

Table 5. Number of unemployed men by average growth method

Year	Number of unemployed (male)
2013	290313
2014	297646
2015	304979
2016	312312

Source: Developed by authors based on the values in Table 2

Unemployed male during 1991 - 2012 is growing, and the calculations confirm the same trend in the future. The increase will lead to a number of 290,313 unemployed males in the year 2013. Year 2014 will have a total of 297.646 unemployed male, increasing from the official values in 2012. In 2015 it will reach a level of 304,979 unemployed among males, as in 2016 to reach 312.312 unemployed males.

The method chosen to forecast the number of unemployed has its limits, but in spite of them we believe that the resulting values are close to reality.

At the national level, National Commission for Prognosis develops forecasts on short, medium and long term regarding the social-economic development of our country. Depending on the forecasts for the period 2013 - 2016, the number of unemployed in Romania is highlighted in Table 6.

Table 6. Forecast of the number of unemployed in Romania (thousands of persons)

Year	Number of unemployed
2013	438
2014	435
2015	420
2016	415

Source: Medium-term forecast 2013 - 2017 - Autumn 2013 version <http://www.cnp.ro/ro/prognoze>

Official data shows a downward trend in the number of unemployed. The figures provided by the National Commission for Prognosis predict a continuing downward trend as in the period 2009 - 2011, recording at the end of 2016 a total of 415 thousand unemployed. At the end of 2013 is expected to register a total of 438 thousand unemployed, decreasing

from 2012 when there were 493 thousand unemployed. For 2014, the National Prognosis Commission anticipates that there will be 435 thousand unemployed in the Romanian economy, and in 2015, we will record a total of 420 thousand unemployed. The downward trend is kept for the last year of forecast, so that the official figures offer a positive perspective on the evolution of unemployment in the coming years [10].

This paper presents for the unemployment forecast period 2013 - 2016 two opinions: National Commission for Prognosis and authors calculations using one of the methods of designing global population. Interesting is the comparison between the two views, because the differences are already noticeable, where the National Forecast Commission considers that there will be a decrease in the number of unemployed, and the authors consider that following the calculations performed there will be an increase in this indicator.

Table 7 shows the forecast provided by the National Commission for Prognosis (N.C.P.) on the number of unemployed at the end of the year and the results of calculations performed by the authors using the absolute average change.

Table 7. Comparisons of forecasting the number of unemployed
(thousands of persons)

Year	Authors calculations	N.C.P.
2013	501	438
2014	508	435
2015	516	420
2016	523	415

Source: Developed by authors based on the values in Table 3 and medium term forecast 2013-2017
- Autumn 2013 version <http://www.cnp.ro/ro/prognoze>

The upward trend in unemployment forecast obtained by using absolute average change reflects, in fact, the dynamics of unemployment in the period 1991-2012. The present situation in our country leads us to believe that in the coming years the number of unemployed will not be reduced, if not adopt sustainable measures to reduce unemployment.

Clearly, forecasts show otherwise, but it is interesting to note in the next period the results of this indicator.

3. Conclusions

Forecasting unemployment is a useful information for the economy, especially since the unemployment phenomenon has implications for macroeconomic and microeconomic level. Despite the fact that the two ways of forecasting the number of unemployed are contrary, it is beneficial for the economy to reduce it and to increase employment. In this situation, both the authorities and the private sector must attract European funds to improve economic and social situation in Romania (Marin, 2013). Attracting the European funds with fiscal policy decisions, monetary policy, policy of employment can lead to economic growth (Chilarez, 2010) and thus the unemployment is reduced.

We believe that reducing unemployment is a national goal, because unemployment is not low in Romania. It is just hidden in the countryside, abroad and in official statistics (Voinea, 2009). This reality is confirmed by the annual composite index "Standard of living, employment and social inclusion". Romania together with Bulgaria have the lowest values of the index among the European states (Dindire L.M., 2012) .

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